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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/543,951	04/06/2000	William S. Dalton	1633-015A	7898

7590 04/18/2002

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EXAMINER

RODGERS, MATTHEW E

ART UNIT	PAPER NUMBER
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3677

DATE MAILED: 04/18/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/543,951

Applicant(s)

DALTON ET AL.

Examiner

Matthew E. Rodgers

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 19 February 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 1-9 are rejected under 35 U.S.C. 102(e) as being anticipated by Bagepalli et al (USPN 6,030,175). Bagepalli shows a packing segment for a gas turbine having an inner face for sealing against the shaft (26, 28), at least one brush seal (54) disposed on the inner face, the opposing ends (48, 50) of the inner face cut parallel with the radii of the axis of the shaft, and the brush seal having opposing ends cut non-parallel with the radii of the axis of the shaft. The brush seal is formed in the geometry of a ring formed from a plurality of adjacent abutting packing segments (10). One of the opposing ends of the brush seal are cut angled to form a tongue extending past the segment end (60). The other of the opposing ends cut to form a channel (46) to accept a tongue formed by a brush seal on another packing segment. The inner

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face (26, 28) comprises a plurality of fins (36, 44) and a plurality of brush seals (circumferentially connected brush seals 54). The fins extend different distances from the inner face. Although not explicitly stated, it is inherent in the structure shown by Bagepalli that the seal assembly is retractable since the assembly is arranged in segments. It is well known to one with ordinary skill in the art to make an annular brush seal assembly arranged in segments to accommodate changes in the dimensions and internal clearances of the turbine due to thermal expansion.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bagepalli in view of Brandon (USPN 5,395,124). Bagepalli teaches all of the limitations of claim 1, but does not explicitly state that the seal assembly is retractable.

Brandon teaches the use of springs (16) between segments to make the seal assembly retractable for the purpose of minimizing packing seal and tip seal rubbing problems occurring during turbine start up, shutdown, and low load conditions to minimize leakage between rotary and stationary components and prevent excess damage and wear (col. 2, lines 65 - col. 3, line 5). Therefore, it would have been obvious to one with ordinary skill in the art at the time the

invention was made to incorporate the spring system of Brandon with the segmented seal assembly of Bagepalli.

### ***Response to Arguments***

Applicant's arguments filed 2/19/02 have been fully considered but they are not persuasive. Applicant argues that retractability is not taught by Bagepalli et al. Although not explicitly stated by Bagepalli, it is well known in the art to make a brush seal assembly in segments for the purpose of accommodating thermal expansion/retraction within the turbine so that the segments may move apart to achieve a larger annular seal diameter to maintain proper seal clearances within the turbine. It is therefore inherent in the structure of Bagepalli, since the seal is arranged in segments, that the seal performs this function.

Applicant also argues that the brush is mounted on a mounting block and not on an inner face as disclosed in the instant application. However, Examiner asserts that although the brush is indeed mounted on a mounting block, it is mounted on an inner face nonetheless. Even if Applicant intends to distinguish the instant application from the seal of Bagepalli by pointing out that the mounting block and labyrinth portions are not integral, there is no language in the claims that excludes the structure shown by Bagepalli. In other words, there is no language in the claims that requires the portion to which the seal is mounted to be integral with the labyrinth portions. Furthermore, it is widely known in the art to have integral mounting and labyrinth portions. Still further, it has been held that forming in one piece an article that has formerly been formed in two pieces and put together involves only routine skill in the art. *Howard v. Detroit Stove Works*, 150 U.S. 164 (1893).

***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

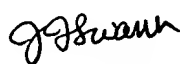
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew E. Rodgers whose telephone number is (703) 306-3406. The examiner can normally be reached on regular work hours.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, J. J. Swann can be reached on (703) 306-4115. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9326 for regular communications and (703) 872-9327 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-2168.

  
MR

April 10, 2002

  
J. J. SWANN  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 3600